

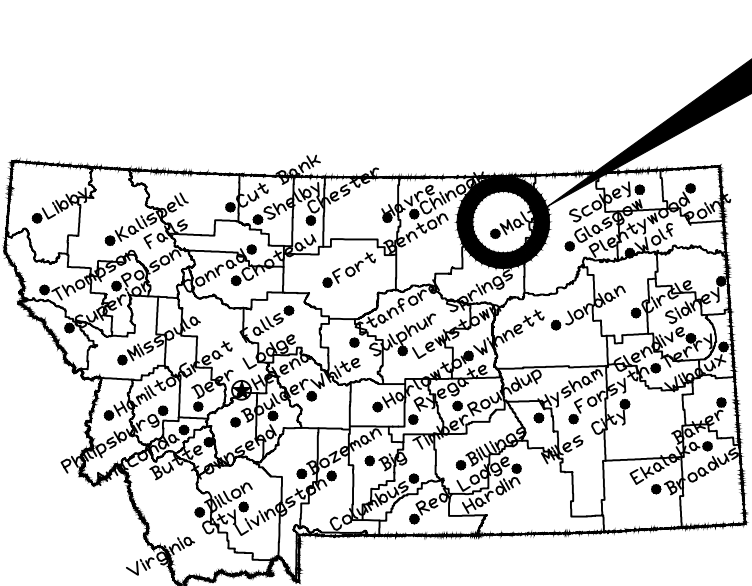
Montana Fish, Wildlife and Parks

# NE MBSF WETLAND REPAIR 2020

## Malta Area Wetland Repair

Near Malta & Turner MT.

FWP # 715105



Project  
Location

**Location Map**

No Scale

North



**Vicinity Map**

No Scale

MONTANA FISH, WILDLIFE AND PARKS  
DESIGN AND CONSTRUCTION SECTION

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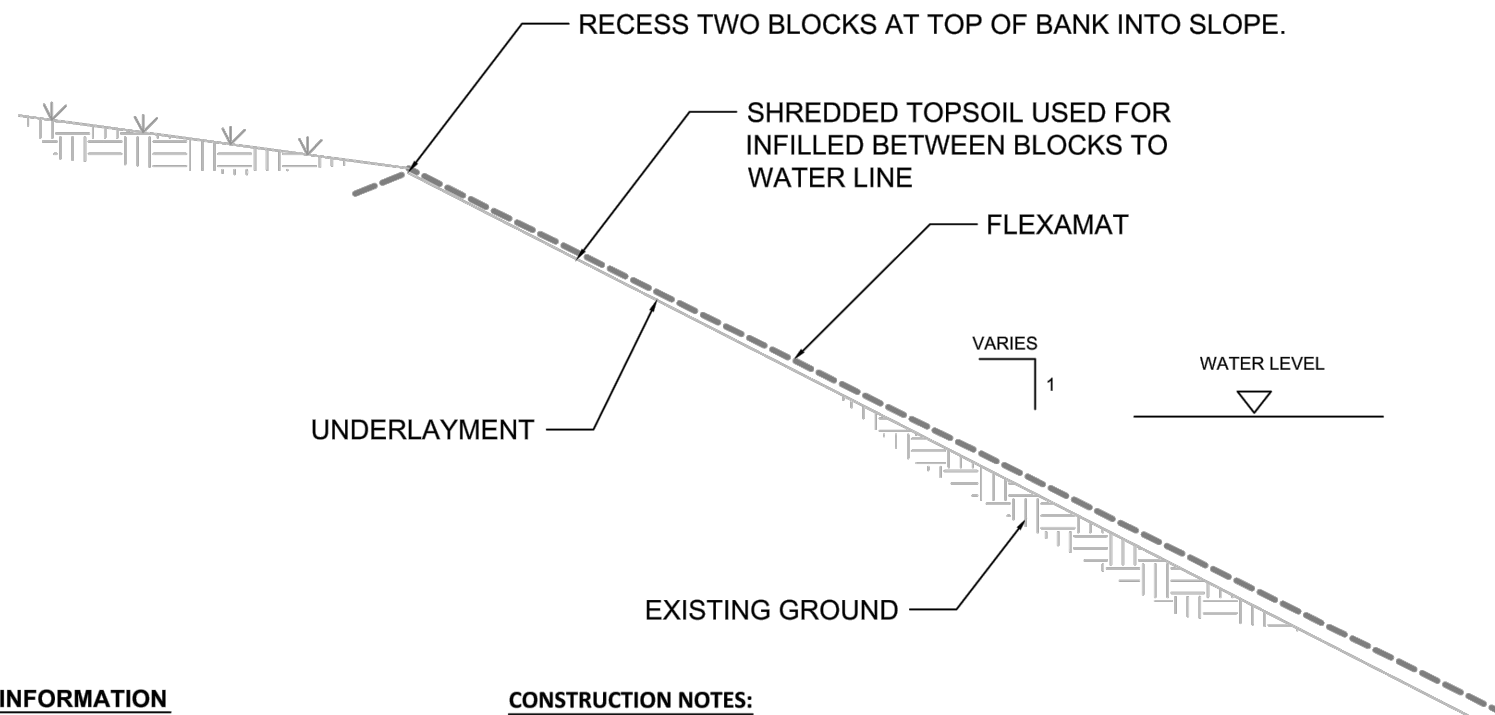
P. Valle	5-2018				
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**Montana Fish,  
Wildlife & Parks**

Cover Sheet  
NE MBSF Wetland Repair project (NE, MT)

SHEET: 1 of 5



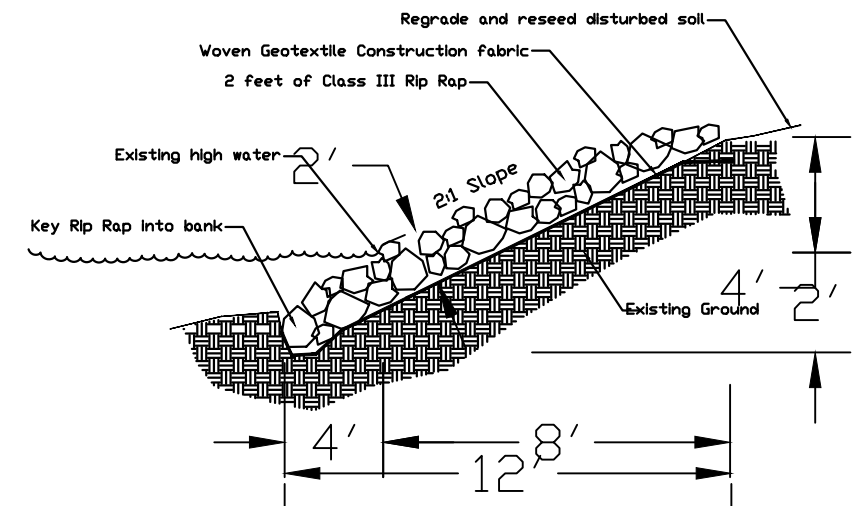
#### FLEXAMAT INFORMATION

Manufacturer: Motz Enterprises, Inc.  
 Product Name: Flexamat<sup>®</sup>  
 Address: 3153 Madison Road  
 Cincinnati, OH 45209  
 Telephone: 513-772-6689  
 Fax: 513-772-6690  
 Contact: Matt Motz  
 Matt@Flexamat.com  
 Website: www.Flexamat.com

#### CONSTRUCTION NOTES:

1. GRADE A UNIFORM SUBGRADE. ALL SUBGRADE SURFACES PREPARED FOR PLACEMENT OF MATS SHALL BE SMOOTH AND FREE OF ALL ROCKS, STICKS, ROOTS, OTHER PROTRUSIONS, OR DEBRIS OF ANY KIND. THE PREPARED SURFACE SHALL PROVIDE A FIRM UNYIELDING FOUNDATION FOR THE MATS. FLEXAMAT BLOCKS HAVE A 2.25" PROFILE; GRADE SO THAT THE TOP OF THE MAT WILL HAVE A FLUSH TRANSITION TO THE SLOPE.
2. INSTALL FLEXAMAT ROLLS. ROLL WIDTHS ARE 8', 10', 12', & 16'. MATS SHALL BE INSTALLED SO THAT THE FLEXAMAT EXTENDS 3'-0" ABOVE THE ANTICIPATED HIGH WATER ELEVATION AND 3'-0" BELOW ANTICIPATED LOW WATER ELEVATION.
3. SPREAD SHREDDED TOPSOIL OVER MAT. SWEEP SOIL BETWEEN BLOCKS AND USE SOIL TO TRANSITION FROM MAT TO SLOPE.
4. SEED THE AREA WITH SITE SPECIFIC SEED MIX. NATIVE GRASSES AS WELL AS OTHER LITTORALS WILL GROW WITHIN MAT.
5. ABUT THE NEXT SECTION OF MAT TIGHTLY TO THE PREVIOUS SECTION. A CONCRETE SAW MAY BE NECESSARY TO CUT MAT TO FIT TIGHTLY TO ADJACENT SECTION OF MAT.

**FLEXAMAT<sup>®</sup>**  
**SHORELINE ARMORING DETAIL**  
**NTS**



**RIP RAP SECTION VIEW**  
*(Not to Scale)*

P.Valle  
 DRAWN BY: DATE: 3/2018  
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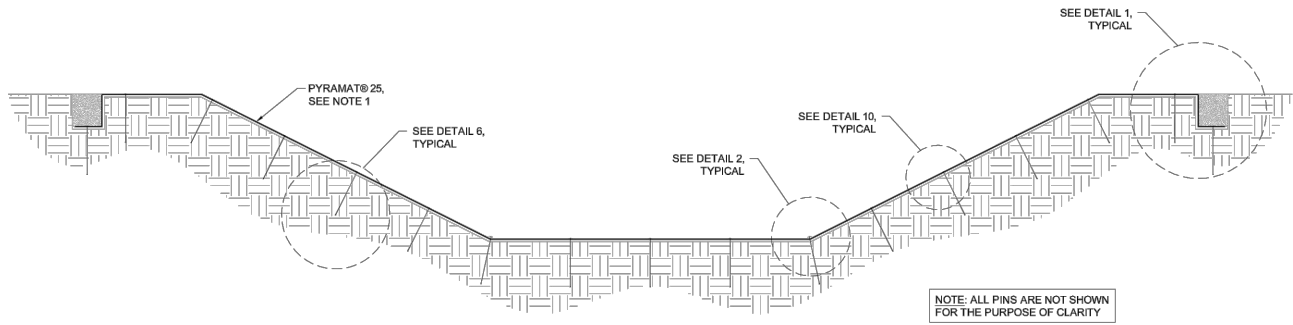
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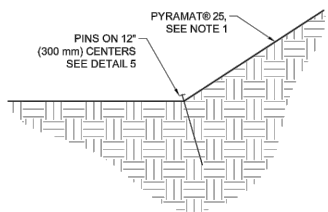
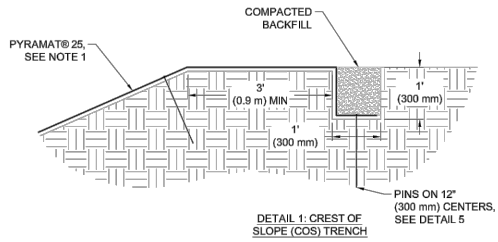
**Montana Fish & Wildlife**

Details  
 NE MBSF repair project

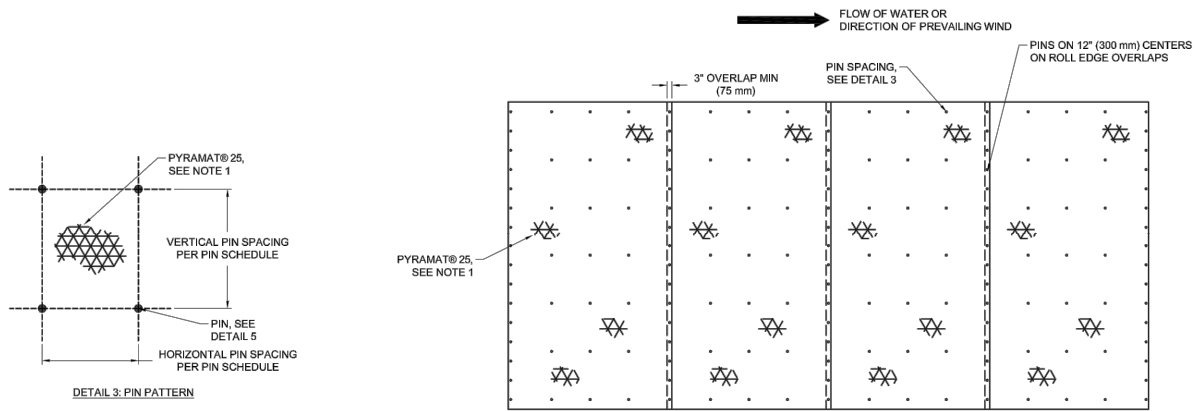
SHEET: 2 of 5



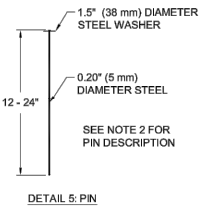
ELEVATION 1: PERPENDICULAR INSTALLATION OF PYRAMAT® 25 TRM IN A CHANNEL



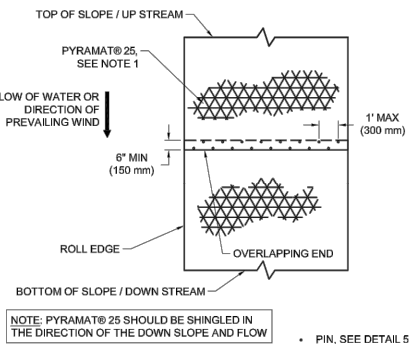
DETAIL 2: BREAK IN SLOPE INTERFACE



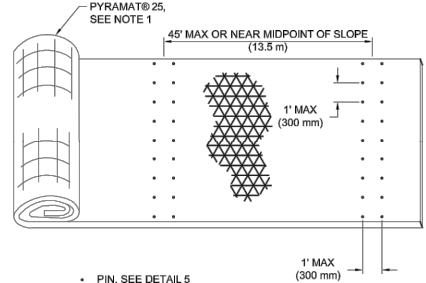
DETAIL 3: PIN PATTERN



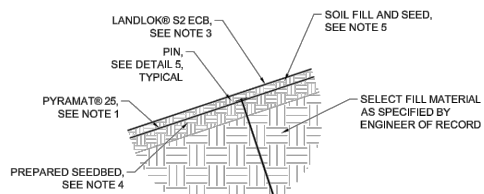
DETAIL 5: PIN



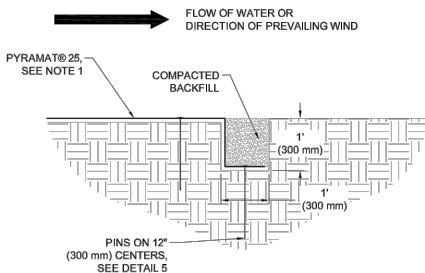
DETAIL 6: OVERLAP AT ROLL END DETAIL



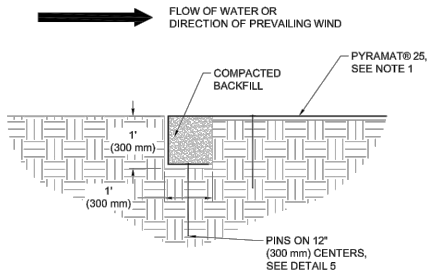
DETAIL 7: SIMULATED CHECK SLOT DETAIL



DETAIL 8: VEGETATION ESTABLISHMENT



DETAIL 9: INITIAL CHANNEL (IC) TRENCH (DOWNSTREAM)



DETAIL 10: TERMINAL CHANNEL (TC) TRENCH (UPSTREAM)

#### PYRAMAT® 25 TRM IN A CHANNEL FOR EROSION CONTROL GENERAL INSTALLATION GUIDELINES

##### GENERAL NOTES


1. PYRAMAT® 25 TRM is a three-dimensional, lofty, woven polypropylene geotextile that is available in green or tan which is specially designed for erosion control applications on steep slopes and vegetated waterways. The matrix is composed of polypropylene monofilament yarns featuring X3® technology woven into a uniform configuration of resilient pyramid-like projections. The material exhibits very high interlock and reinforcement capacity with both soil and root systems, demonstrates superior UV resistance, and enhances seeding emergence.
2. The 12", 18", and 24" Securing Pins are composed of a wire, mushroomed at the top. A washer is then placed on the wire and the wire is crimped or swaged about 3-12" below the top so the washer will not slide off. The end of the wire is cut at a 45 degree angle for easy penetration of the soil. These Pins with washers conform to industry standards for erosion control pins with washers.
3. Landlok S2 Erosion Control Blankets consist of 100% wheat straw mechanically bound and covered on both sides by netting. The straw is homogeneously blended and evenly distributed throughout the blanket. The netting is photodegradable polypropylene with mesh openings of approximately 3/8 in. by 3/8 in. (11 mm by 11 mm). The blanket is sewn on approximately 2 in. (51 mm) centers with photodegradable polypropylene thread. This product is NTPEP approved for AASHTO standards.

##### VEGETATION ESTABLISHMENT

4. Prepare seedbed by loosening 50 to 75 mm (2 to 3 in) of soil above final grade. Apply seed in an amount equivalent to 60% of the total mixture required to be installed on the soil surface, to scarified surface prior to installation of PYRAMAT® 25. Select and apply soil amendments and fertilizer, to scarified surface prior to installation of PYRAMAT® 25. A site specific soil test should be performed to help determine what soil amendments, such as lime and fertilizer, need to be incorporated into the soil to promote healthy vegetation.
5. The installed PYRAMAT® 25 shall be soil filled and seeded with the remaining 40% of the seed mixture. Do not place excessive soil above material. Once soil fill and additional seed is in place, surficial protection should be accomplished by installing LANDLOK® S2 Erosion Control Blanket (ECB) atop the seed layer. LANDLOK® S2 ECB is to be secured using 6" U-shaped staples with a frequency of 2.0 staples per square meter (1.7 staples per square yard).
6. Irrigate as necessary to establish and maintain vegetation until 75% of vegetation has established and has reached a height of 2 inches. Frequent, light irrigation will need to be applied to seeded areas if natural rain events have not occurred within two weeks of seeding.

##### BEFORE INSTALLATION BEGINS

7. Coordinate with a Propex Representative: A pre-construction meeting is suggested with the construction team and a representative from Propex. This meeting should be scheduled by the contractor with at least a two week notice.
8. Gather the Tools Needed: Tools that you will need to install PYRAMAT® 25 include a pair of Industrial shears to cut PYRAMAT® 25 and tape measure.
9. Determine how to Establish Vegetation: The method of vegetation establishment should be determined prior to the start of installation. Different vegetation establishment methods require different orders of installation. Refer to Establish Vegetation for further guidance.
10. Please consult the Propex Website for the most up to date installation guidelines.




**Propex®**  
GEOSOLUTIONS

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### EROSION CONTROL INSTALLATION DETAILS

Please note that the information presented herein is general information only. It is for conceptual use only and not intended to be used for construction. While every effort has been made to ensure its accuracy, this information should not be used for a specific application without independent professional examination and verification of its suitability, applicability, and accuracy. This engineering drawing is protected by the Copyright Act, 17 U.S.C. §101 et seq. and may be used ONLY with the express written permission of Propex in connection with Propex products. Any copying, distributing, and/or creation of a derivative work without permission of Propex is prohibited and is subject of actual damages, statutory damages and attorney's fees under the Copyright Act.

1 of 1		TURF REINFORCEMENT MAT (TRM)	
		PYRAMAT® 25 INSTALLATION DETAILS FOR CHANNELS	
Rev	Date: 02/15/2017	Drawn By: J. HILL	Scale: NTS
		*ALL DIMENSIONS ARE TO BE VERIFIED BY ENGINEER OF RECORD	

PIN SCHEDULE	
SECURING DEVICE	PIN
HORIZONTAL PIN SPACING	2' (0.60 m)
VERTICAL PIN SPACING	2.5' (0.75 m)
EMBEDMENT DEPTH	PER MANUFACTURES DESIGN

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Montana Fish  
Wildlife & Parks

Details  
NE MBSF Wetland repair

SHEET:  
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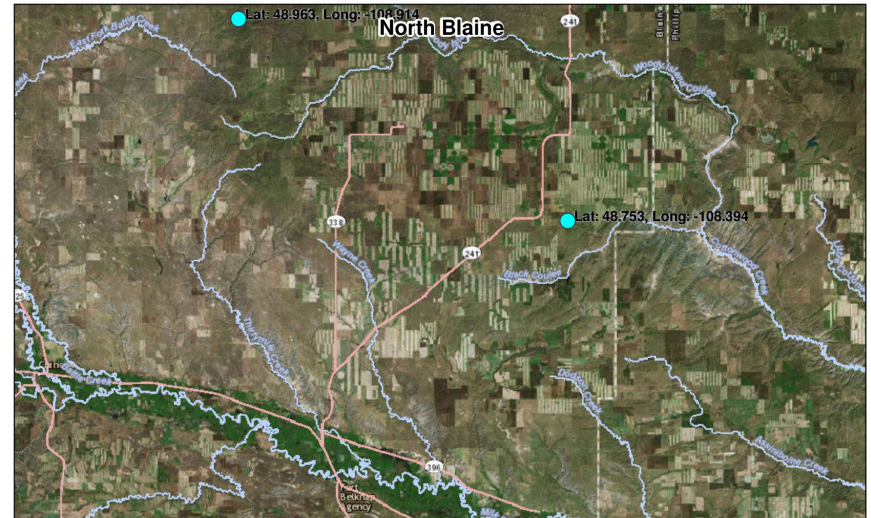




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February 12, 2018  
1:1,155,582  
0 10 20 40 mi  
0 15 30 60 km

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Some layers may not appear in the legend due to page size limitations.



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February 12, 2018  
1:577,791  
0 5 10 20 mi  
0 5 10 20 km

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**Montana Fish,  
Wildlife & Parks**

**MBSF Wetland Repair**  
Wetland repair project (Malta Area)

**SHEET:**  
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Site 104.2



Site 236.3



Site 189.3



Site 250.1

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